AMENDMENTS

In the Specification

none

In the Claims

Please replace the claims with the following clean version of the entire set of pending claims, in accordance with 37 C.F.R. § 1.121(c)(1)(i). Cancel all previous versions of any pending claim.

A marked up version showing amendments to any claims being changed is provided in one or more accompanying pages separate from this amendment in accordance with 37 C.F.R. § 1.121(c)(1)(ii). Any claim not accompanied by a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any added claim or canceled claim.

CLAIMS

Sub B1

1. A method of forming a fluorine doped insulating material comprising:

providing a substrate within a reaction chamber, the reaction chamber controlled within a range of temperatures from above 400 degrees Celsius (°C) but not greater than about 700°C;

D1

providing reactants comprising silicon, fluorine and ozone within the reaction chamber; and

depositing an insulating material, at a rate of from about 1000 angstroms per minute (Å/min) to about 10000 Å/min, comprising fluorine, silicon and oxygen onto the substrate from the reactants, wherein the depositing occurs with a plasma being present in the reaction chamber.

Sub E1

4. The method of claim 1 wherein the silicon and fluorine of the reactants are comprised within a common molecule.

5. The method of claim 1 wherein the silicon and fluorine of the reactants are comprised within a common molecule having an Si-F bond.

D2

6. The method of claim 1 wherein the silicon and fluorine of the reactants are comprised by triethoxy fluorosilane.

7. The method of claim 1 wherein the fluorine in the insulating material is present in Si-F bonds.

D2 cont'd
Sub E1

8. The method of claim 1 wherein the fluorine in the insulating material is present at a concentration of from about 0.1 atomic percent to about 10 atomic percent.

D3 Sub E1

10. The method of claim 1 further comprising maintaining a pressure within the reaction chamber at from about 1 Torr to about 1 atmosphere during the depositing.

Sub E1

13. The method of claim 1 wherein the reactants further comprise phosphorus, and wherein the insulating material comprises fluorine, silicon, oxygen and phosphorus.

D4

14. The method of claim 1 wherein the reactants further comprise boron, and wherein the insulating material comprises fluorine, silicon, oxygen and boron.

15. The method of claim 1 wherein the reactants further comprise boron and phosphorus, and wherein the insulating material comprises fluorine, silicon, oxygen, boron and phosphorus.

16. The method of claim 1 wherein the reactants comprise a molecule that includes both Si and F, and another molecule that includes Si without F.

Sub E1

17. The method of claim 1 wherein the reactants comprise triethoxy fluorosilane and tetraethyl orthosilicate.

D4 Cont'd

18. A method of forming a silicon oxide having Si-F bonds, comprising:

providing a reaction chamber at a temperature in excess of 400 degrees Celsius (°C) but less than 630°C;

positioning a substrate within the reaction chamber;

providing an ozone comprising reactant and a precursor having Si-F bonds to the substrate within the reaction chamber; and

causing a silicon oxide having Si-F bonds, to deposit onto the substrate within the reaction chamber at a rate of from about 1000 angstroms per minute (Å/min) to about 10000 Å/min.

19. The method of claim 18 wherein the precursor having Si-F bonds is triethoxy fluorosilane.

20. The method of claim 18 wherein the depositing occurs with a plasma being present in the reaction chamber.

Sub E1

D5

22. The method of claim 15 wherein the boron-containing precursor is triethyl borane.

Sub E1

23. The method of Claim 1 wherein providing reactants comprising silicon, fluorine and ozone within the reaction chamber comprise providing reactants comprising triethoxy fluorosilane, a phosphorus-containing precursor and ozone, wherein the insulating material deposited is a phosphorus-doped silicon oxide material having Si-F bonds.

24. The method of claim 23 wherein the phosphorus-containing precursor is tetraethoxy phosphine.

D5

25. The method of Claim 1 wherein providing reactants comprising silicon, fluorine and ozone within the reaction chamber comprises providing reactants that include triethoxy fluorosilane, a boron-containing precursor, a phosphorus-containing precursor and ozone, wherein the insulating material deposited is a boron and phosphorus-doped silicon oxide material having Si-F bonds.

26. The method of claim 25 wherein the boron-containing precursor is triethyl borane.

27. The method of claim 25 wherein the phosphorus-containing precursor is tetraethoxy phosphine.

D5 subE1 Concl'd

28. The method of claim 25 wherein the phosphorus-containing precursor is tetraethoxy phosphine and the boron-containing precursor is triethyl borane.

D6 subE1

36. The method of claim 1 comprising depositing the insulating material at a rate of about 8000 Å/min.

subE1 D7

38. The method of claim 18 comprising maintaining a pressure and a temperature within the reaction chamber at from about 400 Torr to about 1 atmosphere and in excess of 500°C but less than 630°C, respectively, during the depositing.

39. The method of claim 38 comprising maintaining a pressure within the reaction chamber at about 600 Torr during the depositing.

subE1 D8

43. (New) The method of claim 18 comprising maintaining a pressure and a temperature within the reaction chamber at from about 400 Torr to about 1 atmosphere and from about 500°C to about but less than 630°C, respectively, during the depositing.

44. (New) The method of claim 43 comprising maintaining a pressure within the reaction chamber at about 600 Torr during the depositing.